

REMARKS

This application has been reviewed in light of the Office Action mailed May 4, 2007.

Reconsideration of this application in view of the below remarks is respectfully requested.

Claims 1 – 30 are pending in the application with Claim 1, 6, 17, 19, 23, 24, 27 and 29 being in independent form. By the present amendment, Claims 1, 4, 5, 11, 13 and 14 are amended and Claim 3 is canceled.

Claim 1 has been amended to incorporate the features recited in Claim 3, thus no new subject matter is introduced into the disclosure by way of the present amendment.

Claims 4, 5, 11 and 13 have been amended to correct dependencies, namely changing claim dependency from canceled Claim 3 to Claim 1. Claim 14 has been amended to correct a misspelling, i.e., the term “frames” should read “frame”.

I. Rejection of Claims 1 – 30 Under 35 U.S.C. § 101

Claims 1 – 30 under 35 U.S.C. § 101 over co-pending U.S. Patent Application No. 10/505,668 (hereinafter, “co-pending application”) for allegedly statutory double patenting. Specifically, the Examiner asserts that Claims 1 – 30 of the present application claim the same invention as Claims 1 – 30 of the co-pending application. However, several features distinguish the present invention over the claimed invention in the co-pending application.

Referring to FIG. 2 of the present application in comparison to FIG. 2 of the co-pending application, unlike the present invention, the co-pending application does not duplicate the frame scanner, interframe predictor, reference frame storage, and first residual decoder in the second moving picture encoder/sender 101-2. In contrast, every element of the first moving picture encoder/sender 101-1 of the present application is duplicated in the second moving picture encoder/sender 101-2.

Accumulation of errors in the invention of the co-pending application is smaller than that in the present invention when transmission errors occur sporadically. However, image quality in the present invention is higher than that in the invention of the co-pending application when non-primary streams with high compression rates are decoded consecutively in cases where errors ranging over a plurality of frames are encountered.

Therefore, for at least the reasons provided above Applicants respectfully submit that the statutory double-patenting rejection has been adequately traversed. Accordingly, Applicants respectfully request withdrawal of the rejection with respect to Claims 1 – 30 under 35 U.S.C. § 101.

II. Rejection of Claims 1 – 30 Under 35 U.S.C. § 103(a)

Claims 1 – 30 are rejected under 35 U.S.C. § 103(a) as allegedly obvious over various combinations of U.S. Patent No. 6,314,137 issued to Ono et al. and U.S. Publication No. 2002/0080871 (hereinafter, “Fallon et al.”) in view of U.S. Patent No. 5,481,543 issued to Veltman and further in view of U.S. Patent No. 5,111,292 issued to Kuriacose et al.

Ono et al. is directed towards encoding a plurality of input video by using an encoder. In contrast, the present invention is directed towards compressing an input sequence to a plurality of streams in order to take measures directed toward the prevention of transmission errors. Thus, the purpose of the present invention is different than the purpose of Ono et al.

Applying the teachings of Fallon et al., as suggested by the Examiner, to the compression of moving picture frames does not ensure that correct decoding is achieved when a plurality of types of compression streams made by inter-frame prediction is switched arbitrarily in frame units.

In addition, processing requirements for a receiver and manufacturing costs are increased using the Fallon teachings, since a plurality of types of decoders must be provided on the receiver side when different types of compression methods are used.

Kuriacose et al. is directed to a technology known as Unequal Error Protection (UEP) and is a technology in which code words of data streams are categorized in High Priority (HP) data and Low Priority (LP) data and data streams are transmitted such that an error rate of HP data is lower than that of LP data.

In the description of Kuriacose et al., an operation of a priority deselect processor 26 is not explained in detail. However, according to the description, code words of HP data and LP data are not overlapping and LP data on its own cannot be decoded. (See: lines 20-44 of column 4 and FIG. 3A). It is assumed that bit sequences taken from HP data and LP data are combined in a unit of code words to generate a stream, which is passed to a decompressor 27.

However according to the present invention, the reception side selects data received without error with frame-by-frame selection or with packet-by-packet selection and decodes the selected encoded data, which is different from the disclosure of Kuriacose et al. Therefore, the assertion by the Examiner that Kuriacose teaches frame-by-frame selection from the plurality of encoded data received by the reception side without error and decodes the selected encoded data is incorrect.

FIG. 1-1C of Kuriacose et al. are pictorial representations of changes between an output sequence and an input sequence of frame encoded data when data are encoded according to an I, P, B coding sequence by an encoder based on a method of MPEG-2 etc., which is not relevant to a frame selection operation of the reception side. The description of lines 37-43 of column 7 in

Kuriacose et al. does not disclose or suggest decoding processing by the stream reception side, but shows a basic operation to generate local decoded images in the encoder.

Contrary to the teachings of the prior art, Claim 3 shares time position of the reference frames referred to the inter-frame prediction at the time of generating all streams. Thereby, it enables decoding by selecting a plurality of streams frame-by-frame at the reception side. This feature is not realized by simply parallel processing of a plurality of inter-frame encoders. The same is true for Claim 6, which details the control in packet units.

In addition, the present invention is believed to be non-obvious, because decoders provided on the reception side can be restricted to one type, thereby being capable of reducing the cost of operation of the present invention, since different types of compression methods are not used, but rather the same compression method is used. Also, stream selection processing by the reception side in the present invention is simpler than UEP method in Kuriacose et al., thereby reducing the processing requirement and the cost of manufacturing for the reception means.

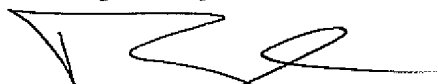
Ono et al., Fallon et al., Veltman and Kuriacose et al., taken alone or in an proper combination, fail to disclose or suggest these features recited in Claims 1, 2 and 4 – 30. Therefore, for at least the reasons provided above, Claims 1, 2 and 4 – 30 are believed to allowable over the prior art references. Accordingly, Applicants respectfully request withdrawal of the rejection with respect to Claims 1, 2 and 4 – 30 under 35 U.S.C. § 103(a) over combinations of Ono et al. and Fallon et al. in view of Veltman and further in view of Kuriacose et al.

CONCLUSIONS

In view of the foregoing amendments and remarks, it is respectfully submitted that all claims presently pending in the application, namely, Claims 1, 2 and 4 – 30 are believed to be in condition for allowance and patentably distinguishable over the art of record.

If the Examiner should have any questions concerning this communication or feels that an interview would be helpful, the Examiner is requested to call Applicant's undersigned attorney at the number indicated below.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Thomas Spinelli', written over a horizontal line.

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